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Measurement and Analysis of Safety and Quality Decision-Making in the Workplace

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Human factors play an important, but often overlooked, role in the management of safety and quality in the work environment. One of these factors is trust. Little research has been done to explore the linkages between trust and safety or quality workplace outcomes. Safety and quality programs depend heavily on the decisions employees make on the job, therefore, an increased understanding of factors influencing their decision-making process is an important component of safety and quality educational intervention.

This research will address an important element of safety and quality-focused workplaces - personnel and their interpretation of the importance of tasks and procedures assigned to them by their supervisors and management. Safe workplaces benefit both workers and the organization. Additionally, quality management systems have been shown to increase revenue, improve inventory management, and allow increased compliance with legal regulations. None of these improvements can be realized if employees do not make positive safety and quality-oriented decisions on the job, therefore, an increased understanding of factors influencing their decision-making process is an important component of safety and quality educational intervention.

Data for this project will be gathered in two parts. Workers will be surveyed on three aspects of organizational climate: trust, safety, and quality. Each survey instrument will ask for their perceptions of two levels of administration: direct supervisors and corporate management. The second part of data collection will involve employees completing two computerized decision-making scenarios. The first will present a typical workplace scenario emphasizing safe decision-making and the second scenario will emphasize a typical quality-related decision. Each scenario will offer four decision alternatives and outcomes of each decision in a matrix format. The computer program will track the alternatives and outcomes visited by each employee, allowing measurement of both the final decision and the process used by each employee to make their decision.

Data collection will begin October 1, 2009 and will continue through February 2010. Using inferential statistical tools such as regression and factor analysis, the goal of the project is to determine if employee perceptions of organizational trust, safety, and quality predict decision-making patterns in scenarios involving workplace safety and compliance with quality standards. Another outcome is to identify contributing factors in the decisions made by employees. Integrating these data with information from previous research, an event tree analysis will be used to determine the role of employee decision-making in the success of organizational quality management and safety programs. Using this information, targeted and responsive educational/training interventions can be developed for employees.